REMARKS

Summary of the Office Action

Claims 1-16 are pending in the application.

Claims 1-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kalia [Vehicular technology conference proceedings, 2000 VTC 2000-Spring Tokyo, 2000 IEEE, pages 716-720 vol. 2] in view of Yang-Ick Joo [Vehicular technology conference proceedings, 2002 VTC 2002-Fall, 2002 IEEE, pages 2445-24489 vol. 4]

Claim Rejections under 35 U.S.C. § 103(a)

In rejecting claims 1-16, the Examiner refers to Kalia in view of the Yang-Ick Joo reference. Specifically, the Examiner asserts that the Kalia reference discloses all the elements of the rejected claim 1, conceding that it does not teach a method of determining the delay parameter (D) of the said one of the plurality of external devices. However, he further contends that the invention of claim 1 is unpatentable by combination of Kalia and Yang-Ick Joo since the Yang-Ick Joo reference teaches the method of determining the delay parameter.

Claim 1 of the present application recites, *inter alia*:

> a counter for counting a number of giving-away times of said one of the plurality of external devices based on the giving-away of communication opportunities to communicate with the plurality of external devices, and determining a delay parameter D of said one of the plurality of external devices;
>
> a communication priority decision unit for calculating priority values P of said one of the plurality of external devices by using the class parameter and the delay

parameter, and determining which of the plurality of external devices has priority, based on the priority values; and

Kalia discloses scheduling policies for Bluetooth Media Access Control (Mac) to address the disadvantage of the conventional policies such as round-robin policy. In particular, it teaches the queue status dependent scheduling policy where priorities P are assigned to the master/slave pairs based on the state of the queues at the master and slaves to improve throughput. Further, it shows K-Fairness policy (KFP) scheme that utilizes the state at the master-slave pairs, i.e., the amount of data traffic in each queue, by maintaining counters for each pair of the queues in order to secure reasonable fairness.

However, the Kalia reference does not teach or suggest at least the technical feature of the counter "determining a delay of parameter D of said one of the plurality of external devices" of claim 1 as the Examiner concedes in the detailed action. Further, it does not disclose "a communication priority decision unit for calculating priority values P of said one of the plurality of external devices by using the class parameter and the delay parameter,..." as recited in claim 1.

The Yang-Ick Joo reference discloses a QoS-aware MAC scheduling algorithm for Bluetooth, called Throughput-Delay Priority Policy(T-D PP), which considers both throughput and delay performance on each Master-Slave pair in scheduling decisions. In particular, the reference suggests the calculation of the priority value using the equation, $P = \alpha T + (1 - \alpha)D$, where T is the queue state based priority value to improve throughput, and D is the number of

yielding or yielded service slots maintained by each Master-Slave pair to consider delay or fairness performance, and α is a system performance parameter.

In formulating the rejections, the Examiner asserts that it would have been obvious to an ordinarily skilled person in the art to apply the teachings of the Yang-Ick Joo reference to the Kalia reference to arrive at the present invention.

However, Applicants submit that there is no motivation or desirability to combine the two references. For example, in Kalia, the K-fairness policy performs the priority scheduling by using the difference between the service received by *qmax* (the master-slave that has received maximum excess service) and *qmin* (the master-slave that has sacrificed maximum service to other connections) in which the service counters for each pair of queues are used to calculate *qmax* and *qmin*. The Yang-Ick Joo reference teaches that the priority is determined by the number of yielding or yielded service slots and the weight parameter for system performance between throughput and delay, as well as the queue state based priority value. Referring to Fig. 3 of Yang-Ick Joo, the counter increases or decreases its counter number D by one depending on priority of the master-slave pair. However, the scheduling policy of Yang-Ick Joo does not use the difference between *qmax* and *qmin* unlike that of Kalia. Further, Kalia does not consider the weight parameter for system performance between throughput and delay. Therefore, Applicants submit that there is no technical motivation to combine the teachings of Kalia with the counter disclosed in the Yang-Ick Joo reference since the combination would lead to destroying the purpose or function of the scheduling algorithm of Kalia.

For similar reasons, the independent method claim 9, which corresponds to claim 1, is patentable over the two references.

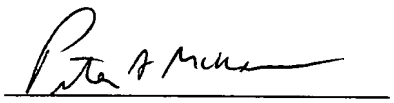
Further, claims 2-8 and 10-16 are patentable over the references at least because of their dependency from the independent claims 1 and 9.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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